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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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01/15/2009

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EXAMINER

DOLLINGER, MICHAEL M

ART UNIT

PAPER NUMBER

1796

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/565,963	Applicant(s) FORD ET AL.	
	Examiner MICHAEL DOLLINGER	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 9-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/26/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-8, drawn to an adhesive composition, classified in class 525, subclass 509.
 - II. Claims 9-13, drawn to a process for the preparation of a board material and the board material, classified in class 51, subclass 303.
 - III. Claims 14-17, drawn to a process for the preparation of a plywood board material and the plywood material, classified in class 51, subclass 298.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the product as claimed can be used in a materially different process: the process of Invention III.

3. Inventions I and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the product as claimed can be used in a materially different process: the process of Invention II.

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4. During a telephone conversation with Bryan H. Davidson on 07 January 2009 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-8. Affirmation of this election must be made by applicant in replying to this Office action. Claims 9-17 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ford et al (WO 94/06839 hereinafter referred to as '839).

7. '839 discloses urea-aldehyde (aminoplast) binder precursors with an aldehyde/urea ratio preferably ranging from about 1.0 to 2.0 [abstract] and comprising a cocatalyst consisting essentially of a Lewis acid and a salt selected from the group consisting of ammonium ion salts and organic amine salts [abstract]. When the organic amine salts are used, there will necessarily be less than 11wt% of an ammonium salt in the catalyst. Urea-formaldehyde is the preferred urea-aldehyde [page 10 lines 22-24]. The acidic catalyst is chosen from a group including formic acid [page 21 line 34] which has a pK_a of 3.74. The pH of the binder precursor should range from about 2 to about 7 [page 21 lines 30-31].

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8. The range for the aldehyde/urea ratio and the pH of the binder precursor in '839 overlap the corresponding claimed range of $F/(NH_2)_2$ ratio. In the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art a *prima facie* case of obviousness exists *In re Wertheim*, 541 F.2d 257, 1911 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ford et al (WO 94/06839 hereinafter referred to as '839) in view of Wagner (US 4,282,135).

10. '839 does not disclose acetic acid as a catalyzing compound in the binder precursor.

11. Wagner discloses that aminoplast formation may be activated by known condensation catalysts including formic acid and acetic acid [10:4-10]. Wagner teaches, henceforth, that formic acid and acetic acid are functional equivalents for the purpose of catalyzing aminoplast formation. It is *prima facie* obvious to substitute art-recognized functional equivalents known for the same purpose. See MPEP § 2144.06.

12. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used acetic acid as the catalyst in an aminoplast binder precursor is low ammonium salt content and low $F/(NH_2)_2$ because '839 teaches that it is within the skill of the art to prepare an aminoplast binder precursor with a formic acid catalyst and Wagner teaches that it is within the skill of the art to form an aminoplast with an acetic acid catalyst. One would have been motivated to do this because Wagner teaches that formic acid and acetic acid are functional equivalents for forming

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aminoplasts. Absent any evidence to the contrary, there would have been a reasonable expectation of success in using acetic acid as the catalyst in the binder precursor of '839.

13. Claims 1-5 rejected under 35 U.S.C. 103(a) as being unpatentable over Tinkelenberg et al (EP 0 107 260 A1).

14. Tinkelenberg et al disclose chipboards comprising a binder of a urea-formaldehyde resin with a molar formaldehyde-to-amino groups ratio between 0.25 and 0.625 and a catalyst comprising a mixture of a latent catalyst and a strong acid [abstract]. This molar formaldehyde-to-amino groups ratio corresponds to a $F/(NH_2)_2$ ratio of 0.5 to 1.25. The latent catalyst is a catalyst such as ammonium chloride or ammonium sulphate [page 2 lines 22-24] and the strong acid includes acid salts and acid reacting salts of strong acids such as formic acid [page 3 lines 3-9].

15. The Inventive Examples I-4, I-5 and I-6 disclose an accelerator system with 13wt% ammonium salt [Table I]. 13wt% of ammonium salt is close enough to the claimed range of at most 11wt% that one would expect the catalyst system to have similar properties. *A prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have similar properties. See *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

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16. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ford et al (WO 94/06839 hereinafter referred to as '839) in view of Wagner (US 4,282,135).

17. Tinkelenberg et al do not disclose acetic acid as a catalyzing compound in the urea-formaldehyde binder.

18. Wagner discloses that aminoplast formation may be activated by known condensation catalysts including formic acid and acetic acid [10:4-10]. Wagner teaches, henceforth, that formic acid and acetic acid are functional equivalents for the purpose of catalyzing aminoplast formation. It is *prima facie* obvious to substitute art-recognized functional equivalents known for the same purpose. See MPEP § 2144.06.

19. Claims 1-5, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ford et al (US 5,486,219 hereinafter referred to as '219).

20. '219 discloses urea-aldehyde (aminoplast) binder precursors with an aldehyde/urea ratio preferably ranging from about 1.0 to 2.0 [abstract] and comprising a cocatalyst consisting essentially of a Lewis acid and a salt selected from the group consisting of ammonium ion salts and organic amine salts [abstract]. When the organic amine salts are used, there will necessarily be less than 11wt% of an ammonium salt in the catalyst. Urea-formaldehyde is the preferred urea-aldehyde [7:32-33]. The acidic catalyst is chosen from a group including formic acid [13:63] which has a pK_a of 3.74. The pH of the binder precursor should range from about 2 to about 7 [13:59-61].

21. The range for the aldehyde/urea ratio of the binder precursor in '219 overlap the corresponding claimed range of $F/(NH_2)_2$ ratio. In the case where the claimed ranges

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overlap or lie inside ranges disclosed by the prior a *prima facie* case of obviousness exists *In re Wertheim*, 541 F.2d 257, 1911 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

22. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ford et al (US 5,486,219 hereinafter referred to as '219) in view of Wagner (US 4,282,135).

23. '219 do not disclose acetic acid as a catalyzing compound in the urea-formaldehyde binder.

24. Wagner discloses that aminoplast formation may be activated by known condensation catalysts including formic acid and acetic acid [10:4-10]. Wagner teaches, henceforth, that formic acid and acetic acid are functional equivalents for the purpose of catalyzing aminoplast formation. It is *prima facie* obvious to substitute art-recognized functional equivalents known for the same purpose. See MPEP § 2144.06.

25. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tinkelenberg et al (EP 0 107 260 A1) in view of Ford et al (WO 94/06839 hereinafter referred to as '839).

26. Tinkelenberg et al do not specifically disclose adhesive composition with catalyzing compounds comprising 11wt% or less of an ammonium salt. Tinkelenberg et al do teach, however, that ammonium salt and strong acids may be combined in order to form a catalyst for aminoplast resins.

27. '839, discussed above, teach that ammonium salt and organic amine salts are equivalent for the purpose of combining with strong acids in order to form a catalyst for

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aminoplast resins [abstract]. It is *prima facie* obvious to substitute art-recognized functional equivalents known for the same purpose. See MPEP § 2144.06.

28. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used an organic amine salt in place of an ammonium salt in an aminoplast adhesive because Tinkelenberg et al teach that it is within the skill of the art to form an aminoplast adhesive with a catalyst comprising an ammonium salt and a strong acid and '839 teaches that it is within the skill of the art to prepare a catalyst for aminoplast resins from a strong acid and an ammonium salt or an organic amine salt. One would have been motivated to do this because '839 teaches that organic amine salts and ammonium salts are equivalents for the purpose of combining with a strong acid to prepare a catalyst for aminoplast resins. Absent any evidence to the contrary, there would have been a reasonable expectation of success in substituting an organic amine salt for the ammonium salt in the composition of Tinkelenberg et al.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL DOLLINGER whose telephone number is (571)270-5464. The examiner can normally be reached on Monday - Thursday 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796

MICHAEL DOLLINGER
Examiner
Art Unit 1796

/mmd/